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10/598,299	07/10/2008	Edwin Rijpekema	NL 040209	2549

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EXAMINER
MASUR, PAUL H

ART UNIT	PAPER NUMBER
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _04 June 2008_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-13_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1,2 and 11_ is/are rejected.
7) ☒ Claim(s) _3-10,12 and 13_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _04 June 2008_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All   b)☐ Some * c)☐ None of:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _04/18/2007_.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1.   **Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d),**

which papers have been placed of record in the file.

Specification

2.   **Applicant is reminded of the proper language and format for an abstract of the disclosure.**

        The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

        The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3.   **The abstract of the disclosure is objected to because it exceeds 150 words.**

Correction is required. See MPEP § 608.01(b).

4.   **The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.**

Arrangement of the Specification

        As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

        (a) TITLE OF THE INVENTION.
        (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
        (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR
             DEVELOPMENT.

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A
    COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37
    CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A
    "Sequence Listing" is required on paper if the application discloses a
    nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if
    the required "Sequence Listing" is not submitted as an electronic
    document on compact disc).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

6.   Claims 1, 2, and 11 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Khan et al. (US Patent No. 7,206,280) in view of Hooper et al.

(US PG Pub 2004/0052269) and Santiago et al. (US PG Pub 2006/0087969).

7.   **As per claim 1,** Khan et al. teach a data processing circuit comprising:

a network (12) that is operable in successive time-slots [Kahn, column 2, lines

64-65, "One or more of the packets are transmitted during a time slot(s) assigned to a

particular subscriber", Each subscriber is assigned time slots in a successive manner.];

a plurality of data processing units (10) interconnected by the network (12)

[Khan, column 1, lines 32-35, "The air interface is used for the exchange of information

between a mobile (e.g., cell phone) and a base station or other communication system

equipment", Mobile phones act as data processing units that are connected through a

wireless network.], and arranged to send streams of messages concurrently through the

network (12) [Khan, column 1, lines 35-37, "The air interface comprises a plurality of

communication channels. The quality of any one of the channels of the air interface

varies", Many concurrent channels exist over the air interface.]...each particular stream

being assigned a respective stream specific path along which the node circuits (22)

forward all messages of the particular stream [Khan, column 1, lines 37-40, "any

particular channel between the base station and a mobile may have an acceptable

throughput at one instant and unacceptable throughput at another instant", Each

communication stream between a processor and a base station are assigned to a

particular stream.].

Khan et al. do not teach each stream comprising messages that occupy

shareable resources (20) in the network (12) in a periodically repeating selection of

successive time-slots, a period of repetition (P) being the same for all the streams; node

circuits (22) in the network (12), the node circuits (22) being arranged to forward the

messages along multi-node paths through the network (12)...the node circuits (22)

being arranged to decide whether to forward or discard each message dependent on a

measure of seniority of the message in its particular stream, each particular node circuit

(22) being arranged to prevent forwarding of a more junior message in the particular

stream for which insufficient resources (20) are left because of forwarding of a more senior message from another stream from the particular node circuit (22).

However, Hooper et al. teach each stream comprising messages that occupy shareable resources (20) in the network (12) in a periodically repeating selection of successive time-slots, a period of repetition (P) being the same for all the streams [Hooper, fig. 3B, paragraph 0034, "Referring now to FIG. 3B, schedule space (Item 50, FIG. 3a) describes a finite amount of time divided into schedule slots (Item 52, FIG. 3a). The amount corresponds to a transmission cycle 51 that repeats with a regular period in time", The time slots periodically repeat according to a defined transmission cycle (or period).];

node circuits (22) in the network (12), the node circuits (22) being arranged to forward the messages along multi-node paths through the network (12) [Hooper, fig. 2, element 40, paragraph 0034, "the local behavior of the router/traffic shaper 40 in its capacity as a store-and-forward network device on network 46", A network contains many routers/traffic shapers.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Hooper et al. into Khan et al., since Khan et al. suggest a plurality of data processing units within a network that communicate via streams, and Hooper et al. suggest the beneficial use of successive time slots according to a period of repetition for each stream [Hooper, fig. 3B, paragraph 0034] in the analogous art of network communications.

Santiago et al. teach the node circuits (22) being arranged to decide whether to forward or discard each message dependent on a measure of seniority of the message in its particular stream, each particular node circuit (22) being arranged to prevent forwarding of a more junior message in the particular stream for which insufficient resources (20) are left because of forwarding of a more senior message from another stream from the particular node circuit (22) [Santiago, paragraph 0061, "The different subflows may be associated with different priority levels, so that some subflows have a lesser likelihood of being discarded or being marked for discarding (or other traffic policing function) than other subflows of the same flow. Thus, during periods of high transfer rates from a flow, the allocation of remaining bandwidth for that flow will be biased towards packets associated to subflows of higher priority", Packets are assigned a priority level and are discarded according to that priority level when resources are low.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Santiago et al. into Khan et al., since Khan et al. suggest a plurality of data processing units within a network that communicate via streams, and Santiago et al. suggest the beneficial use of prioritizing streams of data such as to forward packets according to these priority levels [Santiago, paragraph 0061] in the analogous art of network communications.

8.   **As per claim 2,** Khan et al. in view of Hooper et al. and Santiago et al. teach a data processing circuit according to claim 1. Khan et al. further teach wherein at least one of the node circuits is arranged to send back a confirmation of successful

forwarding of a message from an initial part of a particular stream up to said at least one

of the node circuits, at least a further one of the node circuits (22) being arranged to

forward a subsequent message from the particular stream only after timely reception of

the confirmation [Khan, column 2, lines 66 & 67, column 3, lines 1-5, "If the decoding

was successful (i.e., no errors detected or an acceptable number of errors detected),

the receiving equipment transmits an ACK (ACKnowledge) message to the transmitting

equipment indicating that the information was properly decoded and that a new block of

information can be transmitted", An acknowledgement is sent back to the sending node

to indicate a successful transmission and that subsequent packets can be sent.].

9.   **As per claim 11,** Khan et al. teach a method of processing data in a circuit that

contains a plurality of data processing units (10) interconnected by a network (12) of

node circuits (22), the node circuits (22) using successive time slots to forward

messages along transmission paths between pairs of the data processing units (10),

using resources (20) that the network (12) allows to be shared between different paths

on a time slot multiplexing basis, the method comprising:

        starting streams of messages, each from a respective source data processing

unit (10a) to a respective destination data processing unit (10b) [Khan, column 1, lines

35-37, "The air interface comprises a plurality of communication channels. The quality

of any one of the channels of the air interface varies", Many concurrent channels exist

over the air interface.]…along the node circuits (22) in a stream specific path assigned

to the particular stream [Khan, column 1, lines 37-40, "any particular channel between

the base station and a mobile may have an acceptable throughput at one instant and

unacceptable throughput at another instant", Each communication stream between a

processor and a base station are assigned to a particular stream.].

Khan et al. do not teach each stream comprising messages that occupy the

resources in a periodically repeating selection of time-slots, the period of repetition

being the same for all the streams; forwarding all the messages of the particular stream

through the network (12)... the node circuits (22) deciding to forward or discard each

message dependent on a measure of seniority of the message in its particular stream,

each particular node circuit (22) preventing forwarding of a more junior message for

which insufficient resources are left because of forwarding of a more senior message

from the particular node circuit.

However, Hooper et al. teach each stream comprising messages that occupy the

resources in a periodically repeating selection of time-slots, the period of repetition

being the same for all the streams [Hooper, fig. 3B, paragraph 0034, "Referring now to

FIG. 3B, schedule space (Item 50, FIG. 3a) describes a finite amount of time divided

into schedule slots (Item 52, FIG. 3a). The amount corresponds to a transmission cycle

51 that repeats with a regular period in time", The time slots periodically repeat

according to a defined transmission cycle (or period).];

forwarding all the messages of the particular stream through the network (12)

[Hooper, fig. 2, element 40, paragraph 0034, "the local behavior of the router/traffic

shaper 40 in its capacity as a store-and-forward network device on network 46", A

network contains many routers/traffic shapers.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Hooper et al. into Khan et al., since Khan et al. suggest a plurality of data processing units within a network that communicate via streams, and Hooper et al. suggest the beneficial use of successive time slots according to a period of repetition for each stream [Hooper, fig. 3B, paragraph 0034] in the analogous art of network communications.

Santiago et al. teach the node circuits (22) deciding to forward or discard each message dependent on a measure of seniority of the message in its particular stream, each particular node circuit (22) preventing forwarding of a more junior message for which insufficient resources are left because of forwarding of a more senior message from the particular node circuit [Santiago, paragraph 0061, "The different subflows may be associated with different priority levels, so that some subflows have a lesser likelihood of being discarded or being marked for discarding (or other traffic policing function) than other subflows of the same flow. Thus, during periods of high transfer rates from a flow, the allocation of remaining bandwidth for that flow will be biased towards packets associated to subflows of higher priority", Packets are assigned a priority level and are discarded according to that priority level when resources are low.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Santiago et al. into Khan et al., since Khan et al. suggest a plurality of data processing units within a network that communicate via streams, and Santiago et al. suggest the beneficial use of prioritizing

streams of data such as to forward packets according to these priority levels [Santiago, paragraph 0061] in the analogous art of network communications.

Allowable Subject Matter

10.   Claims 3-10, 12, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference Onggosanusi et al. (US PG Pub 2008/0285691) teaches communicating streams of data via time slots over a period of repetition with acknowledgement in a wireless network.

The reference Danielson et al. (US Patent No. 7,496,112) teaches priority time slots within a circuit switched network.

12.   **Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Masur whose telephone number is (571) 270-7297.** The examiner can normally be reached on Monday through Friday from 7:00AM to 4:30PM (Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. M./
Examiner, Art Unit 2416

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2416